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(54) Title: IDENTIFICATION OF NOVEL E2F TARGET GENES AND USE THEREOF

(57) Abstract: The present invention concerns a method for altering characteristics of a plant. The invention describes the identification of genes that are upregulated or downregulated in transgenic plants overexpressing E2Fa/DPa and the use of such sequences to alter plant characteristics. A preferred way for altering characteristics of a plant comprises modifying expression of one or more nucleic acid sequences and/or modifying level and/or activity of one or more proteins, which nucleic acids and/or proteins are essentially similar to any one or more of SEQ ID NO 1 to 2755. Some of the genes identified in the present invention have an E2Fa target consensus sequence in their 5' upstream region. The identified genes play a role in a variety of biological processes, such as DNA replication, cell wall biosynthesis, nitrogen and/or carbon metabolism, transcription factors etc.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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A61K38/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 033 405 A (CERES INC) 6 September 2000 (2000-09-06) page 341, line 11 - line 13; sequences 72617,72618 claims 1-34	1-16,30, 32,36,37
L	----- DATABASE EMBL [Online] 18 October 2000 (2000-10-18), ALEXANDROV N. ET AL.: "Arabidopsis thaliana DNA fragment SEQ ID NO:72617" XP002283128 Database accession no. AAC52840 L: document disclosing SEQ ID NO:72617 of patent EP 1 033 405 the whole document ----- -/--	1-16,30, 32,36,37

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
L	<p>DATABASE EMBL [Online] ALEXANDROV N. ET AL.: "Arabidopsis thaliana protein fragment SEQ ID NO:72618" XP002283129 Database accession no. AAG56488 L: document disclosing SEQ ID NO:72618 of patent EP 1 033 405 the whole document</p>	<p>1-16,30, 32,36,37</p>
X	<p>DATABASE EMBL [Online] XP002283411 Database accession no. AC079733 nts 53131-54759 protein-id:AAG50748.1 page 8</p>	<p>5-11,16, 30,32, 36-39</p>
X	<p>VEYLDER DE L ET AL: "Control of proliferation, endoreduplication and differentiation by the Arabidopsis E2Fa-DPa transcription factor" EMBO JOURNAL, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 21, no. 6, 15 March 2002 (2002-03-15), pages 1360-1368, XP002227182 ISSN: 0261-4189 cited in the application the whole document</p>	<p>1-4, 12-16,25</p>
A	<p>VANDEPOELE K ET AL: "Genome-wide analysis of core cell cycle genes in Arabidopsis" PLANT CELL, AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS, ROCKVILLE, MD, US, vol. 14, no. 4, April 2002 (2002-04), pages 903-916, XP002259203 ISSN: 1040-4651 cited in the application</p>	

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1033405	A	06-09-2000	CA EP	2300692 A1 1033405 A2
				25-08-2000 06-09-2000